IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Original) A method for establishing a one-to-one voice communication in a communications system having different control plane and user-plane logical entities, comprising the steps of

starting a one-to-one call by call setup signaling embedded in a user-plane traffic sent from a calling subscriber to one of said user-plane logical entities, said embedded signaling identifying a called subscriber,

establishing, in response to said embedded call setup signaling, a logical call path between the ones of said user-plane entities which are to be involved in routing of the call related user-plane traffic,

assigning a call identifier to said call, and

forwarding any subsequent user-plane traffic relating said call and containing said call identifier over said call path from said calling subscriber to said called subscriber.

2.   (Original) A method according to claim 1, wherein said step of establishing a logical call path comprises forwarding said user traffic with the embedded call setup signaling to said called subscriber and establishing a logical call path between the ones of said user-plane entities through which the embedded call setup signaling is routed.

3.   (Original) A method according to claim 1, wherein said step of establishing a logical call path comprises initiating, in response to receiving said embedded call setup signaling from said calling subscriber, a control-plane procedure to program said user-plane entities which are to be involved in routing of the call related user-plane traffic, to support said call.

4.   (Original) A method according to claim 3, wherein the one of said user-plane entities which serves the called party generates and sends a call setup signaling embedded in user-plane traffic and containing said assigned call identifier to said called party.

5.   (Original) A method according to claim 1, comprising a step of forwarding any subsequent user-plane traffic relating said call over said call path from said called subscriber to said calling subscriber.

6.   (Original) A method according to claim 1 or 2, wherein said user-plane traffic comprises real-time audio transport packets.

7.   (Original) A method according to claim 6, wherein the embedded signaling comprises real-time audio transport packets having specific payload types.

8.   (Original) A method for establishing a one-to-one voice communication in a communications system having different control plane and user-plane logical entities, said method comprising the steps of

starting a packet-mode voice communication by sending a user-plane leader packet from a calling user to a first user-specific logical user-plane network entity serving said calling user, said leader packet containing identifier of said sending user and a receiving user,

creating, in response to receiving said user-plane leader packet from said calling user, a logical user-plane channel between said first user-plane entity and a second user-specific logical user-plane network entity serving said called user,

assigning a call identifier to said call,

sending a user-plane leader packet from said second user-plane entity to said called user, said leader packet containing said call identifier,

notifying said call identifier to the calling user by a user-plane communication,

sending user-plane voice packets provided with said call identifier from said calling user to said first user-plane entity,

forwarding said user-plane voice packets to said called user over said logical channel and via said second user-plane entity.

9.   (Original) A method according to claim 8, wherein said step of creating a logical user-plane channel comprises forwarding said user-plane leader packet to said called subscriber and establishing a logical call path between said first and second user-plane entities via which the leader packet is routed.

10.   (Original) A method according to claim 9, wherein said step of forwarding said user-plane leader packet comprises the further steps of

inquiring an IP address of second communication entity from a communication control server on the basis of said identity of said receiving user,

routing said user-plane leader packet and subsequent voice packets to said IP address of said second communication entity.

11.   (Original) A method according to claim 8, wherein said step of establishing a logical user-plane channel comprises initiating, in response to receiving said user-plane leader packet from said calling subscriber, a control-plane procedure to program first and second user-plane entities to support said call.

12.   (Original) A method according to claim 11, wherein said second user-plane entity generates and sends a new user-plane leader packet containing said assigned call identifier to said called party.

13.   (Original) A method according to claim 8, wherein said step of notifying comprises sending a user-plane call setup acknowledgement packet containing said call identifier from said first user-plane entity to said calling user.

14.   (Original) A method according to claim 13, comprising starting transmission of said subsequent voice packets from said calling user in response to said user-plane call setup acknowledgement packet.

15.   (Original) A method according to claim 8, comprising sending a user-plane reception acknowledgement packet from said called user to said second user-plane entity in response to receiving said user-plane leader packet from said second entity.

16.   (Original) A method according to claim 15, comprising sending, in response to receiving said user-plane reception acknowledgement packet from said called user, a user-plane call setup acknowledgement packet from said second user-plane entity to said first user-plane entity, and sending a user-plane call setup acknowledgement packet from said first

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user-plane entity to said calling user in order to enable the calling user to send the subsequent user-plane voice packets.

17.   (Original) A method according to claim 15, comprising considering said called user unreachable if said second user-plane entity does not receive a user-plane reception acknowledgement packet within a preset timeout, and notifying said calling user of said unreachability by a user-plane communication.

18.   (Original) A method according to claim 8, wherein said user-plane leader packet comprises a description of communication capabilities said calling user wishes to use in said call.

19.   (Original) A method according to claim 18, comprising sending a negative acknowledgement user-plane packet from said called user to said second user-plane entity if a terminal of said called user does not support said communication capabilities described in said leading packet.

20.   (Original) A method according to claim 19, wherein said negative acknowledgement packet contains a description of the communication capabilities said called user wishes to use.

21.   (Original) A method according to claim 8, wherein said user-plane packets are real-time audio transport packets, and wherein said leading packet is a real-time audio transport packet having a specific payload type.

22.   (Original) A method according to claim 8, 14, 16 or 17, wherein said user-plane packets are real-time audio transport packets, and wherein said acknowledgement packet is a real-time audio transport packet having a specific payload type.

23.   (Original) A method according to claim 11, wherein said initiating of said control-plane procedure comprises sending an event notification message from said first user-plane entity to a first user-specific control-plane entity serving

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said calling user, said notification message indicating that a one-to-one call is to be set up and containing said identifiers of said calling and called parties,

said first control-plane entity determines, on the basis of said identity of said called user, a second user-specific control-plane entity serving said called user,

said first control-plane entity instructs said second control-plane entity to define said second user-plane entity to support said call and to establish said user-plane logical channel,

said first control-plane entity instructs said second control-plane entity to configure said second user-plane entity to support said call and to establish said user-plane logical channel,

said first control-plane entity configures said first control-plane entity to support said call and to establish said user-plane logical channel.

24.   (Original) A communications system, comprising

logical control plane network entities,

logical user-plane network entities,

user terminals supporting packet-mode one-to-one voice communication,

each of said user terminals having a one-to-one call setup mechanism sending call setup signaling embedded in a user-plane traffic to one of said user-plane logical entities, said embedded user-plane signaling identifying a called user terminal,

a first mechanism establishing, in response to receiving said embedded user-plane call setup signaling, a logical call path between the ones of said user-plane entities which are to be involved with routing of user-plane traffic related to said call, and

said logical user-plane entities having a second mechanism forwarding any subsequent user-plane traffic relating to said call over said call path from said calling subscriber to said called subscriber.

25.   (Original) A system according to claim 24, wherein said user-plane traffic comprises real-time audio transport packets.

26.   (Original) A system according to claim 25, wherein the embedded signaling comprises real-time audio transport packets having specific payload types.

27.   (Original) A communications system, comprising

logical control plane network entities,

at least first and second user terminal supporting packet-mode one-to-one voice communication,

a dedicated user-specific logical user-plane network entity for each user terminal,

each user terminal having a one-to-one call setup mechanism sending a user-plane leader packet to a respective one of said first user-plane network entities in order to start a one-to-one voice call, said leader packet containing identifier of a calling user 1 and a called user, means responsive to receiving said user-plane leader packet from said calling user for creating a logical user-plane channel between a user-plane network entity of a calling user terminal to a user-plane network entity of a called user terminal,

means for assigning a call identifier for said call,

means for notifying said call identifier to the calling user terminal,

means at said user-plane network entity of said called user for sending a user-plane leader packet from said user-plane network entity of said called user terminal to said called user terminal, said leading packet containing said call identifier,

means at said first and second user-plane network entities for forwarding user-plane voice packets sent by said calling user terminal and provided with said call identifier to said called user terminal over said logical user-plane channel.

28.   (Original) A system according to claim 27, further comprising

means for inquiring an IP address of second communication entity from a communication control server on the basis of said identity of said receiving user,

means for routing said leader packet and subsequent voice packets to said IP address of said second communication entity.

29.   (Original) A system according to claim 27, wherein said means for creating a logical channel comprises means for initiating, in response to receiving said embedded call setup signaling from said calling subscriber, a control-plane procedure to program said user-plane entities which are to be involved with routing of the call related user-plane traffic, to support said call.

30.   (Original) A system according to claim 29, comprising

a first user-specific control-plane entity serving said calling user,

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a second user-specific control-plane entity serving said called user,

said means for initiating said control-plane procedure comprising means for sending an event notification message from said user-plane entity of said calling user to said first control-plane entity, said notification message indicating that a one-to-one call is to be set up and containing said identifiers of said calling and called user,

said first control-plane entity comprising means for determining, on the basis of said identity of said called user, said second user-specific control-plane entity,

said first control-plane entity comprising means for requesting said second control-plane entity to define said user-plane entity of said called user to support said call and to establish said user-plane logical channel,

said first control-plane entity comprising means for configuring said control-plane entity of said calling user to support said call and to establish said user-plane logical channel.

31.   (Original) A system according to any one of claims 27 to 30 , wherein said means for notifying said call identifier comprises means for sending a user-plane call setup acknowledgement packet containing said call identifier from said user-plane network entity of said calling user terminal to said calling user terminal.

32.   (Original) A system according to claim 31, wherein said calling user terminal is arranged to start transmission of said subsequent voice packets from said calling user in response to said notifying.

33.   (Original) A system according to any one of claims 27 to 30, wherein said called user terminal is arranged to send a user-plane reception acknowledgement packet to said user-plane network entity of said called user in response to receiving said user-plane leading packet.

34.   (Currently Amended) A system according to claim 23 33, comprising means for sending, in response to receiving said user-plane reception acknowledgement packet from said called user, a user-plane call setup acknowledgement packet from said user-plane entity of said called user to said user-plane entity of said calling user, and means for sending a user-plane call setup acknowledgement packet from said user-plane entity of said calling user to

said calling user terminal in order to enable the calling user to send the subsequent user-plane voice packets.

35.   (Original) A system according to claim 33, wherein said user-plane entity of said called user considers said called user unreachable in response to not receiving a reception acknowledgement packet within a preset timeout, and notifies said calling user of said unreachability.

36.   (Original) A system according to any one of claims 27 to 30, wherein said leading packet contains a description of communication capabilities said calling user wishes to use in said call.

37.   (Original) A system according to claim 36, wherein said called user terminal comprises means for sending a negative user-plane acknowledgement packet to its user-plane network entity if said called user terminal does not support said communication capabilities described in said leading packet.

38.   (Original) A system according to claim 37, wherein said negative user-plane acknowledgement packet contains a description of the communication capabilities said called user wishes to use.

39.   (Original) A system according to any one of claims 27 to 30, wherein said user-plane packets are real-time audio transport packets, and wherein said user-plane leading packet is a real-time audio transport packet having a specific payload type.

40.   (Original) A system according to claim 31, wherein said user-plane packets are real-time audio transport packets, and wherein said user-plane call setup acknowledgement packet is a real-time audio transport packet having a specific payload type.

41.   (Original) A network element for a communication system, said network element comprising a dedicated user-plane logical network entity for at least one user terminal supporting a one-to-one voice communication, said user-plane network entity comprising

(i) means for receiving a user-plane leader packet sent by a calling user terminal in order to start a one-to-one voice call, said leader packet containing identifier of a calling user and a called user,

(ii) means for creating a logical channel to a user-plane network entity of said called user terminal in response to receiving said user-plane leader packet,

(iii) means for assigning a call identifier,

(iv) means for notifying the calling user terminal of said call identifier by a user-plane communication,

(v) means for sending a user-plane leader packet from said second user-plane entity to said called user, said leader packet containing said call identifier,

(vi) means for forwarding user-plane voice packets sent by said calling user terminal and provided with said call identifier to said user-plane network entity of said called user terminal over said logical channel.

42. (Original) A user terminal for communications system, said user terminal comprising

a one-to-one call setup mechanism sending a user-plane leader packet to a user-specific logical user-plane network entity in order to start a one-to-one voice call, said leader packet containing identifier of a calling user and a called user,

means for starting to send user-plane voice packets to said user-plane network entity in response to receiving a user-plane call setup acknowledgement packet containing a call identifier, said voice packets containing said call identifier.

43. (Original) A user terminal according to claim 41, wherein said user-plane leader packet contains a description of the communication capabilities said user terminal wishes to use.

44. (Original) A user terminal according to claim 42, comprising

means for receiving from said user-specific user-plane network entity a user-plane leader packet originating from another user terminal and containing a call identifier,

means for sending a user-plane reception acknowledgement to said user-specific user-plane network entity.

45.   (Original) A user terminal according to claim 42, comprising

means for receiving from said user-specific user-plane network entity a user-plane leader packet originating from another user terminal and containing a description of the communication capabilities said other user terminal wishes to use,

means for sending a negative user-plane acknowledgement packet to said user-specific user-plane network entity, if said called user terminal does not support said communication capabilities described in said leading packet, and sending a positive user-plane acknowledgement otherwise.

46.   (Original) A user terminal according to claim 42, wherein said user-plane packets are real-time audio transport packets, and wherein said user-plane leading packet is a real-time audio transport packet having a specific payload type.

47.   (Currently Amended) A user terminal according to claim 43, 44, or 45[[,]] or 46, wherein said user-plane packets are real-time audio transport packets, and wherein said user-plane acknowledgement packet is a real-time audio transport packet having a specific payload type.